

What is claimed is:

1. A method for evaluating a plurality of options comprising the steps of:
  - a) selecting and accessing type 1 databases,  $DB^1_i$ , each of said selected databases  $DB^1_i$  including at least one option rating,  $OR_i(x,n)$ , for one of said options,  $x$ , with respect to a dimension  $n$ , where said option  $x$  can differ among said selected databases;
  - b) selecting and accessing type 2 databases  $DB^2_j$ , each of said type 2 databases  $DB^2_j$  including at least one database rating  $DR_j(i)$  for at least one of said databases  $DB^1_i$ ;
  - c) associating weights,  $W_i$  with said databases  $DB^1_i$ , said weights  $W_i$  being calculated as a function of said database ratings  $DR_j(i)$ ; and
  - d) calculating an overall rating  $R(m,n)$  for an option  $m$  with respect to said dimension  $n$  as a function of said weights  $W_i$  and option ratings  $OR_i(m,n)$ ;
  - e) repeating step d for each remaining one of said options for which there exists at least one option rating with respect to said dimension  $n$ ; and
  - f) generating a list of said options and associated overall ratings with respect to dimension  $n$ .
2. A method as described in claim 1 where said function of said weights  $W_i$  and said option ratings  $OR_i(m,n)$  is:
 
$$R(m,n) = \sum_i (W_i \cdot \text{Norm}(OR_i(m,n))) / \sum_i W_i;$$
  - a) where  $\text{Norm}(OR_i(m,n))$  is a normalization of said option ratings  $OR_i(m,n)$ , and
  - b) summation  $\sum_i$  ranges over all of said type 1 databases  $DB^1_i$  for which said option ratings  $OR_i(m,n)$  are defined.
3. A method as described in claim 2 where said option ratings  $OR_i(m,n)$  are normalized with respect to a maximum rating  $OR_i(\text{max})$  and a minimum satisfactory rating  $OR_i(\text{sat})$  for each of said selected type 1 databases  $DB^1_i$ .
4. A method as described in claim 2 where, if said option rating  $OR_i(m,n)$  is less than said minimum satisfactory  $OR_i(\text{sat})$ , said normalization,  $\text{Norm}(OR_i(m,n))$  is set equal to a

predetermined value; said predetermined value being less than a normalized minimum satisfactory rating  $\text{Norm}(\text{OR}_i(\text{sat}))$ .

5. A method as described in claim 2 where said function of said database ratings  $\text{DR}_j(i)$  is:

$$W_i = \sum_j (\text{MW}_j \cdot \text{Norm}(\text{DR}_j(i))) / \sum_j \text{MW}_j;$$

- a) where  $\text{Norm}(\text{DR}_j(i))$  is a normalization of said database ratings  $\text{DR}_j(i)$ , and
- b) summation  $\sum_j$  ranges over all of said type 2 databases  $\text{DB}_j^2$  for which said option ratings  $\text{DR}_j(i)$  are defined; and
- c)  $\text{MW}_j$  are master weights associated with said type 2 databases  $\text{DB}_j^2$ .

6. A method as described in claim 5 where said database ratings  $\text{DR}_j^2$  are normalized with respect to a maximum rating  $\text{DR}_j(\text{max})$  and a minimum satisfactory rating  $\text{DR}_j(\text{sat})$  for each of said selected type 2 databases  $\text{DB}_j^2$ .

7. A method as described in claim 6 where, if one of said weights  $W_i$  is less than 0, said one weight is set equal to 0.

8. A method as described in claim 5 further comprising the step of adjusting said master weights  $\text{MW}_j$  based on a user's evaluation of said list.

9. A method as described in claim 8 where said adjusting step comprises the steps of:

- a) said user identifying a selected choice  $m'$ ;
- b) calculating a partial derivative  $P(\text{MW}_j') = \partial F_{m',n'}(\text{MW}_j) / \partial \text{MW}_j'$ ; where  $F_{m',n'}(\text{MW}_j)$  is the deviation of option rating  $R(m',n)$  from the mean rating,  $\sum_m R(m,n)/M$  as a function of master weights  $\text{MW}_j$ , where  $M$  is the total number of options for which  $R(m,n')$  is defined;
- c) setting  $\text{MW}_j' = \text{MW}_j'(1 + \alpha P(\text{MW}_j'))$ , where  $\alpha$  is a small positive number; and
- d) repeating steps b and c for all remaining master weights  $\text{MW}_j$ .

10. A method as described in claim 8 where said adjusting step comprises the steps of:

- a) said user identifying a selected choice  $m'$ ;
- b) calculating a partial derivative  $P(MW_j') = \partial F_{m',n'}(MW_j) / \partial MW_j'$ ; where  $F_{m',n'}(MW_j)$  is the deviation of option rating  $R(m',n)$  from the maximum rating,  $\max(R(m,n))$  as a function of master weights  $MW_j$ ;
- c) setting  $MW_j' = MW_j'(1 + \alpha P(MW_j'))$ , where  $\alpha$  is a small positive number; and
- d) repeating steps b and c for all remaining master weights  $MW_j$ .

11. A method as described in claim 1 where said options are rated with respect to a plurality of dimensions, comprising the further step of repeating steps d and e for each remaining one of said dimensions.

12. A method as described in claim 11 further comprising the step of adjusting said master weights  $MW_j$  based on a user's evaluation of said list.

13. A method as described in claim 12 where said adjusting step comprises the steps of:

- a) said user identifying a selected choice  $m'$  and a critical dimension  $n'$ ;
- b) calculating a partial derivative  $P(MW_j') = \partial F_{m',n'}(MW_j) / \partial MW_j'$ ; where  $F_{m',n'}(MW_j)$  is the deviation of option rating  $R(m',n')$  from the mean rating,  $\sum_m R(m,n')/M$ , along said critical dimension  $n'$ , as a function of master weights  $MW_j$ , where  $M$  is the total number of options for which  $R(m,n')$  is defined;
- c) setting  $MW_j' = MW_j'(1 + \alpha P(MW_j'))$ , where  $\alpha$  is a small positive number; and
- d) repeating steps b and c for all remaining master weights  $MW_j$ .

14. A method as described in claim 12 where said adjusting step comprises the steps of:

- a) said user identifying a selected choice  $m'$ ;
- b) calculating a partial derivative  $P(MW_j') = \partial F_{m',n'}(MW_j) / \partial MW_j'$ ; where  $F_{m',n'}(MW_j)$  is the deviation of option rating  $R(m',n)$  from the maximum rating,  $\max(R(m,n))$  as a function of master weights  $MW_j$ ;
- c) setting  $MW_j' = MW_j'(1 + \alpha P(MW_j'))$ , where  $\alpha$  is a small positive number; and
- d) repeating steps b and c for all remaining master weights  $MW_j$ .

15. A data processing system, said data processing system being programmed to:
- a) select and access type 1 databases,  $DB^1_i$ , each of said selected databases  $DB^1_i$  including at least one option rating,  $OR_i(x,n)$ , for one of said options,  $x$ , with respect to a dimension  $n$ , where said option  $x$  can differ among said selected databases;
  - b) select and access type 2 databases  $DB^2_j$ , each of said type 2 databases  $DB^2_j$  including at least one database rating  $DR_j(i)$  for at least one of said databases  $DB^1_i$ ;
  - c) associate weights,  $W_i$  with said databases  $DB^1_i$ , said weights  $W_i$  being calculated as a function of said database ratings  $DR_j(i)$ ; and
  - d) calculate an overall rating  $R(m,n)$  for an option  $m$  with respect to said dimension  $n$  as a function of said weights  $W_i$  and option ratings  $OR_i(m,n)$ ;
  - e) repeat d for each remaining one of said options for which there exists at least one option rating with respect to said dimension  $n$ ; and
  - f) generate a list of said options and associated overall ratings with respect to dimension  $n$ .
16. A system as described in claim 15 where said system is programmed to calculate said function of said weights  $W_i$  and said option ratings  $OR_i(m,n)$  as:
- $$R(m,n) = \sum_i (W_i \cdot \text{Norm}(OR_i(m,n))) / \sum_i W_i;$$
- a) where  $\text{Norm}(OR_i(m,n))$  is a normalization of said option ratings  $OR_i(m,n)$ , and
  - b) summation  $\sum_i$  ranges over all of said type 1 databases  $DB^1_i$  for which said option ratings  $OR_i(m,n)$  are defined.
17. A system as described in claim 16 where said system is programmed to normalize said option ratings  $OR_i(m,n)$  with respect to a maximum rating  $OR_i(\text{max})$  and a minimum satisfactory rating  $OR_i(\text{sat})$  for each of said selected type 1 databases  $DB^1_i$ .
18. A system as described in claim 16 where said system is further programmed to, if said option rating  $OR_i(m,n)$  is less than said minimum satisfactory  $OR_i(\text{sat})$ , set said

normalization,  $\text{Norm}(\text{OR}_i(m,n))$  equal to a predetermined value; said predetermined value being less than a normalized 'minimum satisfactory rating  $\text{Norm}(\text{OR}_i(\text{sat}))$ .

19. A system as described in claim 16 where said system is programmed to calculate said function of said database ratings  $\text{DR}_j(i)$  as:

$$W_i = \sum_j (\text{MW}_j \cdot \text{Norm}(\text{DR}_j(i))) / \sum_j \text{MW}_j;$$

- a) where  $\text{Norm}(\text{DR}_j(i))$  is a normalization of said database ratings  $\text{DR}_j(i)$ , and
- b) summation  $\sum_j$  ranges over all of said type 2 databases  $\text{DB}_j^2$  for which said option ratings  $\text{DR}_j(i)$  are defined; and
- c)  $\text{MW}_j$  are master weights associated with said type 2 databases  $\text{DB}_j^2$ .

20. A system as described in claim 19 where said system is programmed to normalize said database ratings  $\text{DR}_j^2$  with respect to a maximum rating  $\text{DR}_j(\text{max})$  and a minimum satisfactory rating  $\text{DR}_j(\text{sat})$  for each of said selected type 2 databases  $\text{DB}_j^2$ .

21. A system as described in claim 20 where said system is further programmed to, if one of said weights  $W_i$  is less than 0, set said one weight equal to 0.

22. A system as described in claim 19 where said system is further programmed to adjust said master weights  $\text{MW}_j$  based on a user's evaluation of said list.

23. A system as described in claim 22 where said system is programmed to adjust said master weights  $\text{MW}_j$  by:

- a) identifying said user's selected choice  $m'$ ;
- b) calculating a partial derivative  $P(\text{MW}_j') = \partial F_{m',n'}(\text{MW}_j) / \partial \text{MW}_j'$ ; where  $F_{m',n'}(\text{MW}_j)$  is the deviation of option rating  $R(m',n)$  from the mean rating,  $\sum_m R(m,n)/M$  as a function of master weights  $\text{MW}_j$ , where  $M$  is the total number of options for which  $R(m,n')$  is defined;
- c) setting  $\text{MW}_j' = \text{MW}_j'(1 + \alpha P(\text{MW}_j'))$ , where  $\alpha$  is a small positive number; and
- d) repeating b and c for all remaining master weights  $\text{MW}_j$ .

24. A system as described in claim 22 where said adjusting step comprises the steps of:
- a) said user identifying a selected choice  $m'$ ;
  - b) calculating a partial derivative  $P(MW_j') = \partial F_{m',n'}(MW_j) / \partial MW_j'$ ; where  $F_{m',n'}(MW_j)$  is the deviation of option rating  $R(m',n)$  from the maximum rating,  $\max(R(m,n))$  as a function of master weights  $MW_j$ ;
  - c) setting  $MW_j' = MW_j'(1 + \alpha P(MW_j'))$ , where  $\alpha$  is a small positive number; and
  - d) repeating steps b and c for all remaining master weights  $MW_j$ .
25. A system as described in claim 23 where said system is programmed to rate said options with respect to a plurality of dimensions and to repeat d and e for each remaining one of said dimensions.
26. A system as described in claim 25 where said system is further programmed to adjust said master weights  $MW_j$  based on a user's evaluation of said list.
27. A system as described in claim 26 where said system is programmed to adjust said master weights  $MW_j$  by:
- a) said user identifying said user selected choice  $m'$  and a critical dimension  $n'$ ;
  - b) calculating a partial derivative  $P(MW_j') = \partial F_{m',n'}(MW_j) / \partial MW_j'$ ; where  $F_{m',n'}(MW_j)$  is the deviation of option rating  $R(m',n')$  from the mean rating,  $\Sigma_m R(m,n')/M$ , along said critical dimension  $n'$ , as a function of master weights  $MW_j$ , where  $M$  is the total number of options for which  $R(m,n')$  is defined;
  - c) setting  $MW_j' = MW_j'(1 + \alpha P(MW_j'))$ , where  $\alpha$  is a small positive number; and
  - d) repeating b and c for all remaining master weights  $MW_j$ .
28. A system as described in claim 26 where said system is programmed to adjust said master weights  $MW_j$  by::
- a) said user identifying a selected choice  $m'$ ;



- b) calculating a partial derivative  $P(MW_j') = \partial F_{m',n'}(MW_j) / \partial MW_j'$ ; where  $F_{m',n'}(MW_j)$  is the deviation of option rating  $R(m',n)$  from the maximum rating,  $\max(R(m,n))$  as a function of master weights  $MW_j$ ;
- c) setting  $MW_j' = MW_j'(1 + \alpha P(MW_j'))$ , where  $\alpha$  is a small positive number; and
- d) repeating steps b and c for all remaining master weights  $MW_j$ .

29. A computer readable medium for providing instructions to a data processing system, said instructions controlling said data processing system to:

- a) select and access type 1 databases,  $DB^1_i$ , each of said selected databases  $DB^1_i$  including at least one option rating,  $OR_i(x,n)$ , for one of said options,  $x$ , with respect to a dimension  $n$ , where said option  $x$  can differ among said selected databases;
- b) select and access type 2 databases  $DB^2_j$ , each of said type 2 databases  $DB^2_j$  including at least one database rating  $DR_j(i)$  for at least one of said databases  $DB^1_i$ ;
- c) associate weights,  $W_i$  with said databases  $DB^1_i$ , said weights  $W_i$  being calculated as a function of said database ratings  $DR_j(i)$ ; and
- d) calculate an overall rating  $R(m,n)$  for an option  $m$  with respect to said dimension  $n$  as a function of said weights  $W_i$  and option ratings  $OR_i(m,n)$ ;
- e) repeat d for each remaining one of said options for which there exists at least one option rating with respect to said dimension  $n$ ; and
- f) generate a list of said options and associated overall ratings with respect to dimension  $n$ .